

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action.

Status of Action

Applicant respectfully requests a change to the status of the pending Office action. The Office action status is "Final", presently. Under the Manual of Patent Examining Procedure (MPEP) §706.07(a), second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is not necessitated by applicant's amendment of the claims. It is applicant's belief that applicant's previous amendments do not necessitate the current grounds of rejection, rather the Examiner could have included a rejection based on the presently cited prior art in the Office action of October 3, 2003. In the Office action of October 3, 2003, the Examiner rejected claims 1-24, solely under 35 U.S.C. §112, as being indefinite, specifically requesting clarification as to whether the claimed drive system is for a land vehicle or a stationary training device, as claim 1 was structured in an alternative manner. There were no rejections based on prior art. Applicant, in response, amended claim 1 to state that the drive system was for a vehicle, and claim 9 wherein the drive system was clearly claimed to be used for a stationary training apparatus. The Examiner imposed a restriction requirement to two different species of the invention which, in response, was traversed in conjunction with an election to one species and all claims (except claim 9) that read

on that species. The Examiner has now cited art (U.S. 4,709,917 to Yang) directed to a stationary training apparatus against all the claims (the restriction being withdrawn) including those which are directed to a drive system used in a vehicle. Clearly, the cited reference to Yang could have been cited by the Examiner against the claims, as originally presented, directed to a vehicle and/or directed to use in a stationary vehicle training apparatus in the Office action of October 2003, which instead did not include any rejections base on prior art. Thus, applicant's amendments to that Office action did not necessitate the Examiner's new grounds of rejection. Applicant respectfully requests that the status of the outstanding Office action be changed to "Non-final".

Claim Rejections § 103

Claims 1-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 4,709,719 to Yang (hereinafter Yang). For the following reasons, the Examiner's rejection is traversed.

Yang is directed to a mock exercise bicycle furnished with an electronic display or a mechanical belt for simulating road conditions. The pedaling resistance felt by the user is varied by a program stored in memory. As the program stored in memory is applied to microprocessor, the microprocessor will almost simultaneously produce a series of signals to the display and to a driving control device. In response, the driving control device varies the resistance which a resistance adjusting wheel offers to the rotation of driven wheel, thus changing the degree of inclination of the mock road surface displayed by display and the pedaling resistance

offered by pedals.

Yang does not describe or solve problems in the art addressed by the present invention. Specifically, Yang does not describe or provide a solution for a drive system configuration including a generator wherein initial treading down on a pedal meets with little resistance force.

Regarding claim 1, Yang does not teach or suggest “an electric drive system operated with muscle-power for a vehicle”, as required. Rather, Yang teaches only a stationary bicycle for exercise, not a vehicle.

Additionally, Yang does not teach or suggest “an electric transmission from the generator to a drive motor” as required. First, Yang does not disclose a drive motor for driving a vehicle. Rather, Yang discloses a bicycle wheel driven by pedals via a chain. Yang only discloses an AC induction motor, the motor being driven by the bicycle pedals to provide a power source or else the motor may drive the pedals of the bicycle. Yang separately discloses a DC or AC generator that can generate, through pedaling, electricity for a battery. This generator is used as an alternative to the AC induction motor for generating power (see Col. 3 Line 61) and does not include an associated transmission or drive motor. Thus, in no instance does Yang teach or suggest a generator in combination with a transmission leading to a drive motor.

Additionally, Yang does not teach or suggest a control program of a generator, as required. As stated above, Yang does not contemplate a system including a generator and a drive motor wherein the lack of resistance to initial pedaling is a problem. As a result, Yang does not teach or suggest a control program for a generator to provide initial resistance. Rather, Yang controls pedaling

resistance in response to changes in mock road conditions through a small adjusting wheel driven by a solenoid or motor. Yang only teaches control via a microprocessor that serves to store mock road conditions and to adjust the resistance wheel in response to changes in mock road conditions. Control of the generator of Yang is not taught or suggested.

Further, Yang does not teach or suggest “a starting control of a generator with which when a foot pedal is actuated from standstill, an immediately occurring pedal resistance is generated”, as required. Rather, in one instance Yang teaches a common generator which is not controlled (as described above). This generator acts in a normal manner, providing little rotational resistance until rotational speed is high. Yang also teaches similar operation in a configuration where the AC induction motor is used. The pedals driving the induction motor can freely rotate at a velocity less than a synchronous speed N_s , but meet resistance over the synchronous speed N_s . Below N_s , where is no pedal resistance at all, and the starting moment is zero. Thus, the required immediate pedal resistance is not taught.

Still further, Yang does not teach or suggest a starting control of a generator “with which a high starting moment is generated at the foot pedal when starting from standstill up to a minimum riding speed” as required. Because Yang does not teach or suggest a driving motor for a vehicle, Yang does not contemplate the problem of providing adequate starting power to such a motor. With a common generator adequate starting power for a drive motor is not supplied initially. Adequate power is only provided when the generator is moving relatively quickly, and time is required to reach this speed. Yang teaches only a generator or induction motor of this type, not a type where adequate power is generated right at startup. The present invention

causes the generator to provide the adequate starting power via control of the generator by providing a high starting moment.

Reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-4 depend directly from claim 1 and are believed to be allowable for the reasons stated above.

Regarding claim 5, Yang does not disclose a resistance or load moment of a generator modulated in phase with a pedal angle. Rather, Yang only teaches a common generator without load moment controls. As is known in the art, a common generator does not have a load moment that varies in phase with a pedal angle.

Claim 6 depends directly from claim 1 and is believed to be allowable for the reasons stated above.

Regarding claim 7, Yang does not disclose a *generator* that is short-circuited by an electric switch and wherein the switch is closed to generate pedal resistance. Rather, Yang teaches providing preprogrammed resistance through a resistance wheel controlled by a motor, solenoid or a manual switch and cable configuration. None of these configurations teach or suggest short circuiting the generator.

Regarding claim 8, Yang does not disclose a system wherein a high starting moment is generated by briefly switching on and off an electric switch that shorts a generator. As previously stated, the generator taught by Yang does not include a switch that is shorted out.

Claims 9-17 depend directly from claim 1 and are believed to be allowable for the reasons stated above.

Regarding claim 18 Yang does not teach or suggest a drive system including

a removable data storage device as required. Rather Yang discloses a computer memory system that is not a removable part of the device of Yang.

Claims 19-23 depends directly from claim 1 and are believed to be allowable for the reasons stated above.

Reconsideration and withdrawal of the rejection of claims 1-23 is respectfully requested.

Claim 18 additionally stands rejected as being unpatentable over Yang in view of U.S. 5,213,555 to Hood et al. (hereinafter Hood) For the following reasons, the Examiner's rejection is traversed.

Hood discloses an information, communication and control system for use in a health club which accumulates data from various types of exercise equipment and permits a number of exercise machines to be raced against one another. The exercise machines are equipped with keyboards from which users can enter data including their handicap (ability level) and the desired length of race. A central controller includes memory for storing data accumulated from the exercise machines and programs. The controller, responsive to the programs and input data, conducts a race between two or more exercise machines and displays the progress of the race on a video monitor. The controller can also be used to set up exercise programs for users on the various machines based on user performance data accumulated from the machines over time.

Even if the references were combined in the matter proposed by the Examiner, the invention of claim 18 is not disclosed. Claim 18 depends from claim 1. As previously stated, Yang does not teach or suggest "an electric drive system operated with muscle-power for a vehicle", as required. Hood is also not directed to

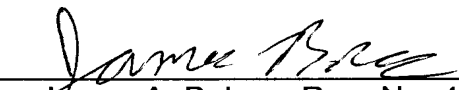
a vehicle. Additionally, Yang does not teach or suggest "an electric transmission from the generator to a drive motor" as required. Hood does not cure the deficiencies of Yang in this regard. Additionally, Yang does not teach or suggest a control program of a generator, as required. Hood also does not cure the deficiencies of Yang in this regard. Reconsideration and withdrawal of the rejection of claim 18 over the combination of Yang and Hood is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. WLL-12659.

Respectfully submitted,

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